

U.S. Serial No. To be Assigned (Attorney Dkt: HALB:023D1)
Art Unit: To be Assigned

In the claims:

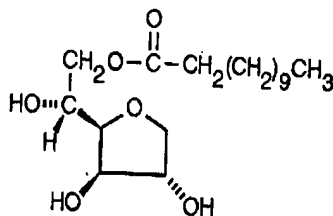
Please amend claim 13, delete claims 1-12, 21-25, and add new claims 26-41 as indicated below.

I claim:

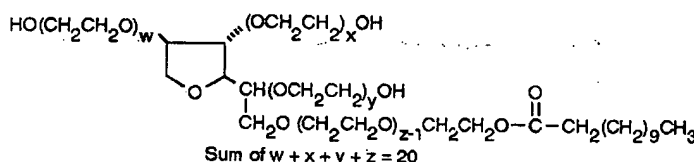
1. Canceled.
2. Canceled.
3. Canceled.
4. Canceled.
5. Canceled.
6. Canceled.
7. Canceled.
8. Canceled.
9. Canceled.
10. Canceled.
11. Canceled.
12. Canceled.
13. (Currently amended) A drilling fluid comprising a polar base oil and complimentary surfactants such that said surfactants form micelles having denser concentration in the palisade layer of said fluid than ~~any~~ either surfactant would have alone.
14. (Original) The drilling fluid of claim 13 wherein said polar base oil is a synthetic ester based oil.
15. (Original) The drilling fluid of claim 13 wherein said base oil and surfactants comprise the oil based layer of an invert emulsion.
16. (Original) The drilling fluid of claim 15 wherein said base oil and said surfactants comprise about 90 volume percent of said emulsion.
17. (Original) The drilling fluid of claim 16 wherein calcium chloride brine comprises the water phase of said emulsion.
18. (Original) The drilling fluid of claim 17 wherein said surfactants are fatty acid surfactants.

19. (Original) The drilling fluid of claim 13 further comprising a fluid loss additive.
20. (Original) The drilling fluid of claim 19 wherein said fluid loss additive is selected from the group comprising: oleic acid; quaternary ammonium compounds; calcium carbonates; styrene butadiene; and combinations thereof.
21. Canceled.
22. Canceled.
23. Canceled.
24. Canceled.
25. Canceled.
26. (New) An electrically conductive drilling fluid comprising a polar ester oil-base, a sorbitan ester derivative surfactant, and an ethoxylated sorbitan ester derivative surfactant, wherein said surfactants are in quantities sufficient to create micelles having enhanced concentration in the palisade layer.
27. (New) The drilling fluid of claim 26 wherein said micelles in the palisade layer are packed sufficiently close to yield a rigid surfactant film.
28. (New) The drilling fluid of claim 26 wherein said fluid is prepared by formulating an invert emulsion comprising said base oil to which is added said ethoxylated sorbitan ester derivative followed by said sorbitan ester derivative.
29. (New) The drilling fluid of claim 28 wherein said emulsion comprises about 85 to about 95 volume percent ester and about 5 to about 15 volume percent brine.
30. (New) The drilling fluid of claim 29 wherein said volume percent ester comprises said ester base oil, said sorbitan ester derivative, and said ethoxylated sorbitan ester derivative.

31. (New) The drilling fluid of claim 26 wherein said sorbitan ester has the formula:



32. (New) The drilling fluid of claim 26 wherein said ethoxylated sorbitan ester has a formula the same as or similar to:



33. (New) The drilling fluid of claim 26 wherein said sorbitan ester derivative and said ethoxylated sorbitan ester derivative are complimentary.

34. (New) The drilling fluid of claim 26 wherein said polar ester oil-base comprises a monocarboxylic acid ester of a C₂ to C₁₂ monofunctional alkanol.

35. (New) An electrically conductive oil based drilling fluid comprising complimentary fatty acid surfactants and a polar base oil for providing said electrical conductivity to said fluid.

36. (New) The drilling fluid of claim 35 wherein at least one of said complimentary fatty acid surfactants is more water soluble than another and at least one of the complimentary fatty acid surfactants is more oil soluble than another.

37. (New) The drilling fluid of claim 35 wherein said complimentary fatty acid surfactants are selected from the group consisting of sorbitan esters, sorbitan ester derivatives,

ethoxylated sorbitan esters, ethoxylated sorbitan ester derivatives, and combinations thereof.

38. (New) An oil-based drilling fluid having complimentary surfactants that effect electrical conductivity through staggered arrangement of their micelles at the palisade layer.

39. (New) The drilling fluid of claim 38 wherein said complimentary surfactants provide an enhanced concentration of said micelles in the palisade layer.

40. (New) The drilling fluid of claim 38 wherein said fluid effects said electrical conductivity over a broad temperature range.

41. (New) The drilling fluid of claim 38 wherein said surfactants are added to said oil in preparing said drilling fluid.